

Integrated Mastery: A Portfolio of Evidence in Engineering, Education, and Regulatory Compliance

Synthesizing Technical Depth, Quality Assurance,
and Professional Resilience

Engineering

Assessment

Compliance

Five Pillars of Competence



Foundational Engineering & Academic Rigor

The accredited NATED/SAQA qualification pathway, demonstrating a solid, verifiable educational base.



Bridging Theory with Industry Practice

Evidence of applying academic knowledge in real-world industrial settings.



Expertise in Assessment & Quality Assurance

Deep knowledge of national assessment policies and the practical application of moderation standards.



Resilience & Professional Advocacy

Proven capacity for navigating complex legal and administrative systems to ensure compliance and advocate for professional rights.



Mastery of Global & Future-Focused Standards

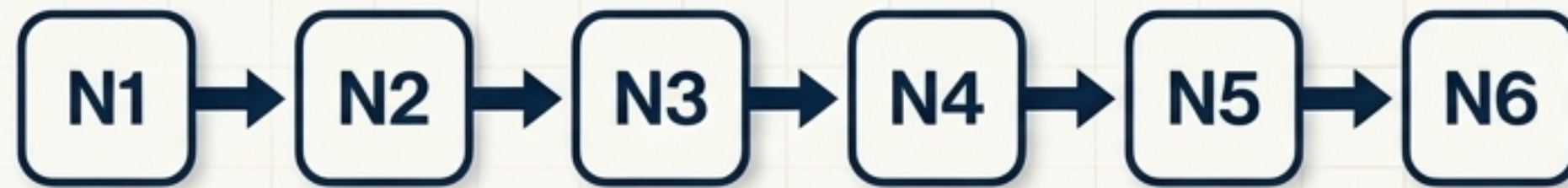
Command over international and corporate technical standards, demonstrating continuous learning and global relevance.

Pillar 1: Foundational Engineering & Academic Rigor

Grounded in the South African National Qualifications Framework (NQF)

Qualification Title

National N Diploma in Engineering (SAQA ID: 90674, NQF Level: 6).



Core Subjects

- Mathematics
- Engineering Science
- Electrical Trade Theory
- Industrial Electronics
- Electrotechnics
- Power Machines
- Control Systems
- Installation Rules

Visual Evidence



A Detailed Look at Curriculum and Assessment Structure

ICASS Trimester Policy (Report 191)

Component	Weighting
Test 1	30%
Test 2	70%
Minimum to Qualify	40%
Validity	1 year

Electrical Trade Theory N1 Module Weighting

Module	Weight Value (%)
DC theory	30
Wiring of premises	25
Magnetism and electromagnetism	10
Safety precautions	10
Other modules (Fire, Tools, etc.)	25

This structure ensures continuous assessment and syllabus coverage, forming the basis for examination entry.

Demonstrates a curriculum heavily focused on foundational principles and practical application in wiring, governed by SANS 10142-1.

Pillar 2: Bridging Theory with Industry Practice

Curriculum Validation and Portfolio Development at City Power Johannesburg

Objective

To align NATED Electrical Engineering studies with the operational realities of a major municipal utility.

Key Activities



Job Shadowing: Observing technicians in Metering, Test Branch, and Customer Interface units.



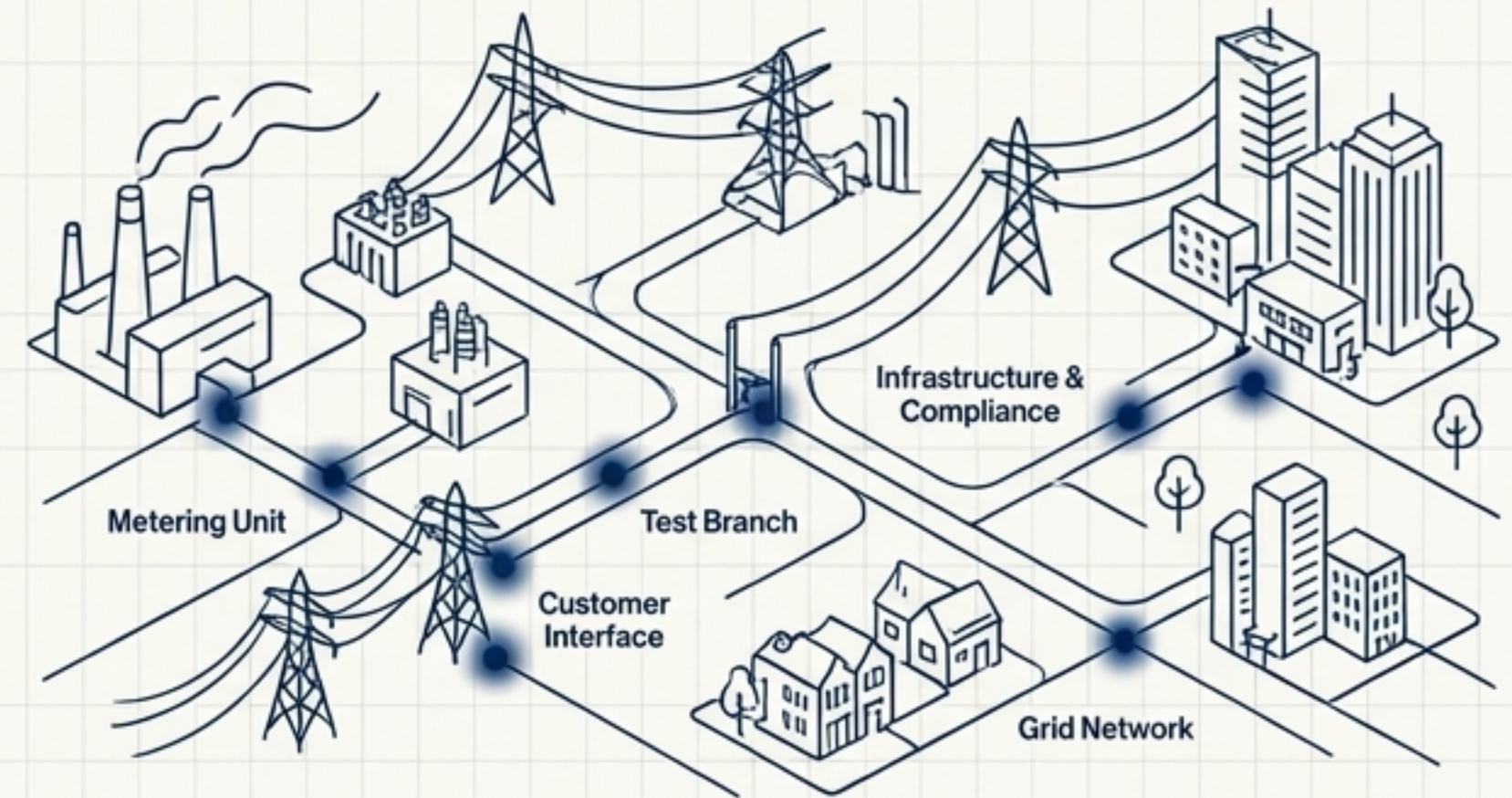
Site Inspections: Assessing infrastructure and compliance with technical standards.



Curriculum Validation: Engaging with City Power staff to ensure syllabi reflect current industry needs.



Portfolio of Evidence (PoE): Collecting verified evidence for the National Trade Portfolio.



Key Insight: The visit confirms the challenges of the sector (e.g., load shedding, service delivery complaints) and reinforces the need for graduates who are not only technically skilled but also resilient and adaptable.

Pillar 3: Expertise in Assessment & Quality Assurance

Upholding National Standards as a Registered Assessor and Moderator

Role

Registered SETA Assessor and Moderator, responsible for ensuring assessment practices are fair, valid, and reliable.

Key Responsibilities

- **Internal Moderation:** Verify consistency of marking, review assessment tools, and provide feedback to assessors.
- **External Moderation:** Liaise with DHET and quality assurance bodies to ensure national consistency and credibility of qualifications.
- **PoE Management:** Ensure Portfolios of Evidence are comprehensive and meet regulatory requirements.

Governing Policies

All assessment practices are aligned with DHET guidelines, SAQA policies, and specific SETA requirements.



This is to certify that

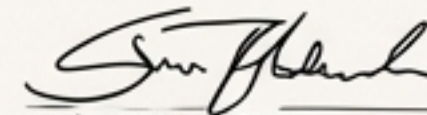
Tshingombe Tshitad

is a competent

ENGINEERING ASSESSOR

and **MODERATOR**

at NQF level 5


Authorized Signature

22 December 2024

Issue Date

Schneider Electric
 Electric

Pillar 4: Resilience & Professional Advocacy

A Proven Capacity for Navigating Complex Legal and Administrative Systems

This slide documents direct engagement with national statutory bodies as a demonstration of navigating formal systems to uphold professional and statutory rights.



**Commission for
Conciliation, Mediation
and Arbitration (CCMA)**

Engaged in formal
dispute resolution
processes regarding
unfair dismissal
claims.
(e.g., Case Ref
GAJB6808-15).

From: ccmaonlineforms@ccma.org.za
Sent: Tuesday 28 February 2023 09:04:04
Subject: CMA Online Submission;
EGRSAD2930087yt ArOffi
ar too Request (LRA Form 7.11)
71s.

From: ccmaonlineforms@ccma.org.za
Sent: Tuesday 29 February 2023 09:04:04
To: CH6RGUUS
Subject: CMA Online Submission;
EGAEKGS63005728 ArUR1
ar too Request (LRA Form
71s.
Dear CMD,
Please note, that a submission has been made
in sets, please see below, with capacity for
advocacy and resilience under professional
pressure.



**Private Security Industry
Regulatory Authority
(PSIRA)**

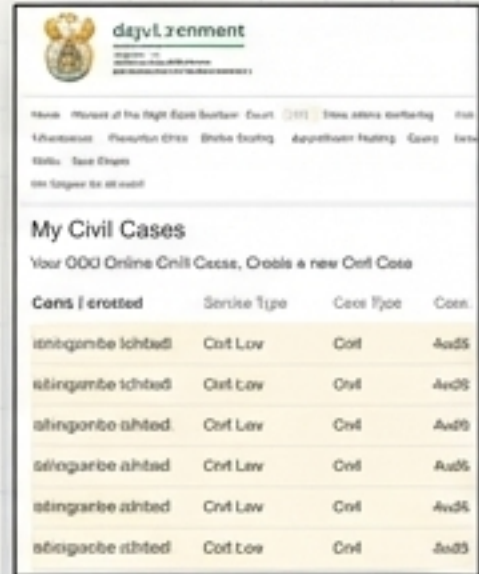
Filed formal
complaints and
engaged with the
Private Security
Sector Provident
Fund regarding
statutory obligations
of employers.

LABOUR
SPECIAL COMPLAINT FORM-PRIVATE
SECURITY SECTOR PROVIDENT FUND
Dear valued Client,
THANKS FOR CHOOSING CCMA
1. First, we would like to inform you that we are sorry to hear of any difficulties you may be experiencing in your company or business. We are committed to providing you with the best possible service and we will do our utmost to resolve your concerns as quickly as possible.
2. We will be happy to assist you with any queries or concerns you may have. Please contact us at 0800 123 456 or email us at info@ccma.org.za.
3. For further information, please visit our website at www.ccma.org.za.



**Labour Court
& DOJ**

Utilized formal
legal channels
for arbitration
outcomes and
civil case
management.



Cases / created	Service Type	Case Type	Case
stingorbe ichted	Civil Law	Civil	AutD5
stingorbe ichted	Civil Law	Civil	AutD5
stingorbe ichted	Civil Law	Civil	AutD5
stingorbe ichted	Civil Law	Civil	AutD5
stingorbe ichted	Civil Law	Civil	AutD5
stingorbe ichted	Civil Law	Civil	AutD5

The Insight
This experience demonstrates a robust understanding of labour law, procedural fairness, and the mechanisms for legal recourse, showcasing a capacity for advocacy and resilience under professional pressure.

Pillar 5: Mastery of Global & Future-Focused Standards

Command of Mission-Critical U.S. Military & Defense Specifications

Featured Standard:: MIL-STD-11991B

General Standard for Parts, Materials, and Processes (PM&P)

Scope & Purpose



Defines requirements for managing PM&P across the entire lifecycle of military systems to ensure reliability, authenticity, and sustainment.

Key Concepts Mastered



Counterfeit Prevention: Strong emphasis on authenticity, authorized suppliers, and Certificates of Conformance (C of C).



COTS Evaluation: Provides criteria for assessing Commercial-Off-The-Shelf items for military use.



Derating: The practice of using components below their maximum ratings to improve reliability.



Lifecycle Management: Proactive management of component obsolescence.

The Insight

Expertise in these standards is critical for designing systems where failure is not an option, covering everything from counterfeit detection to corrosion prevention.

Evidence of Application: Technical Data for High-Reliability Systems

Key Data Tables from MIL-STD-11991B for Audit-Ready Implementation

Table 1: PM&P Incoming Inspection Data Requirements (Appendix H)

Requirement	EEE parts	Mechanical parts	Notes
Database fields maintained for life	Yes	Yes	Lot date code, P.O. requirements, C of C data
Documented procedures for incoming tests	Yes	Yes	Define sampling, methods, acceptance criteria
Radiological inspection (X-ray)	Yes	Yes	Internal defects
DPA (Destructive Physical Analysis)	Required (one per lot)	—	See MIL-STD-1580
PIND (Particle Impact Noise Detection)	Categories A–C, T	—	Hermeticity/loose particles

Table 2: Microcircuit Derating Factors (Appendix A)

Critical Stress Parameter	Digital	Linear	Notes
Maximum Supply Voltage	0.90	0.80	Do not exceed 90% of max rating
Power Dissipation	0.80	0.75	Limit to 80% (digital), 75% (linear)
Max Junction Temperature	40°C below max	40°C below max	Applies across all devices

Integrating Global Frameworks: A Comparative Analysis

Bridging Military Engineering Documentation (MIL-STD-100G) with International Safety Standards (IEC 62368-1:2024)

Dimension	MIL-STD-100G	IEC 62368-1:2024
Safety Focus	Critical Safety Items (CSI): Identifies specific components/characteristics requiring rigorous control.	Hazard-Based Safety Engineering (HBSE): Identifies energy sources and mandates safeguards.
Documentation	Prescriptive drawings identifying CSIs and requiring engineering evaluation of any changes.	Performance-based documentation of hazards, safeguards, and formal risk assessments.
Change Control	Formalized structure for numbering, identification (PINs, CAGE codes), and revision history.	Focus on the impact of changes on safety, requiring updated risk assessments.
Traceability	Achieved through PINs, CAGE codes, and government-controlled drawing revisions.	Achieved through critical component lists, test records, and supplier certifications.

Key Synthesis

For ruggedized and safety-critical systems, these approaches are complementary. MIL-STD-100G ensures traceability and control, while IEC 62368-1 ensures comprehensive hazard mitigation.

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Self-assess your skills to provide
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Modules Completed

216



Learning Paths Completed

756 hr 38 min



Training Hours Completed

Selected Learning Path Completions

APL-2007: Accelerate app development by using GitHub Copilot

Learn how to accelerate app development by using GitHub Copilot and GitHub Copilot Chat in a Visual Studio Code environment. in Source Serif Pro Regular

Completed Oct 4, 2025

AI Fluency

A comprehensive understanding of AI fluency, from foundational concepts to advanced topics.

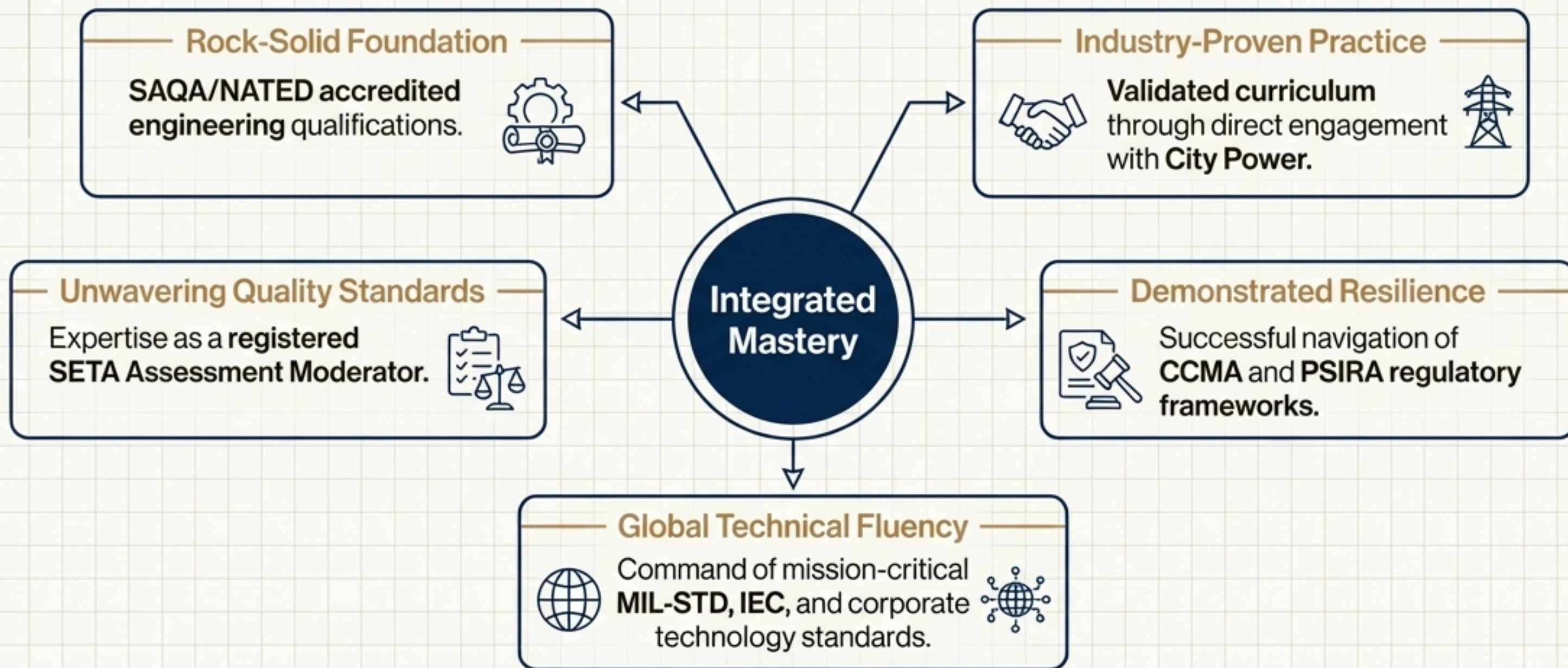
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Build custom agents for Microsoft Teams

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The Blueprint for Integrated Mastery



This portfolio demonstrates a rare synthesis of capabilities: the **technical precision** of an engineer, the **pedagogical rigor** of an educator, the strategic mindset of a **compliance expert**, and the **resilience** of a **professional advocate**. This is Integrated Mastery.